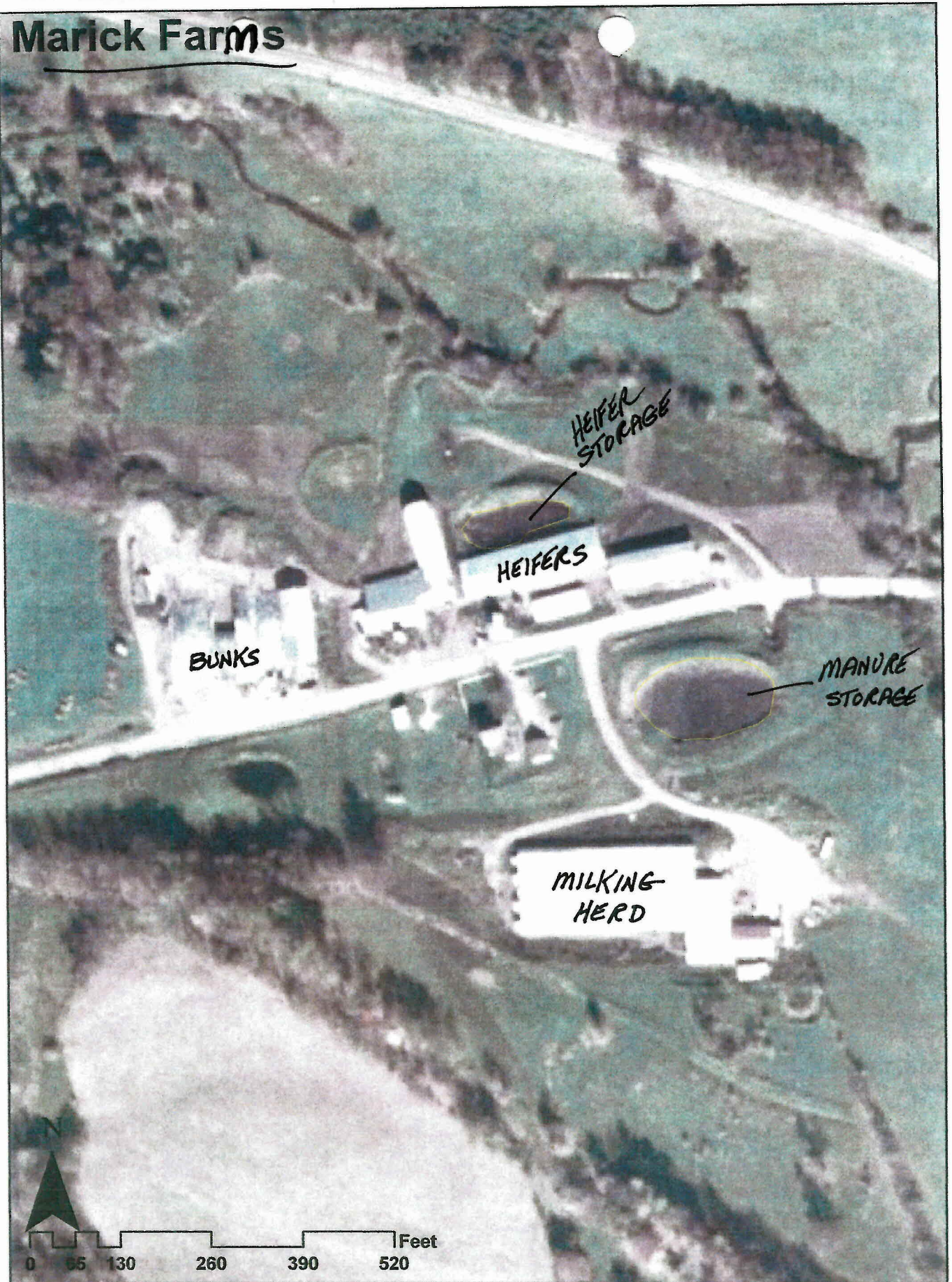
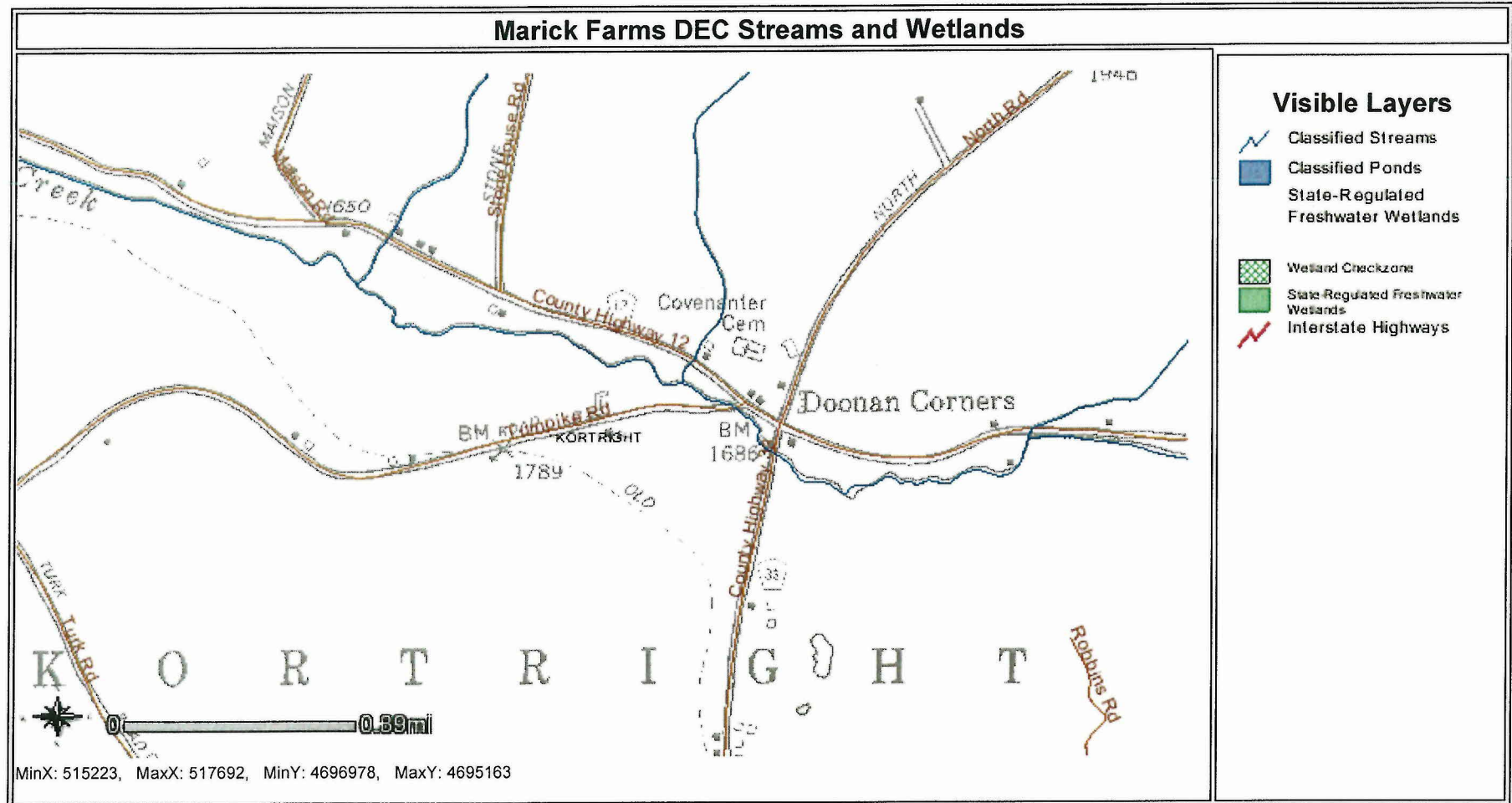


Marick Farms



Please set your printer orientation to "Landscape".



Disclaimer: This map was prepared by the New York State Department of Environmental Conservation using the most current data available. It is deemed accurate but is not guaranteed. NYS DEC is not responsible for any inaccuracies in the data and does not necessarily endorse any interpretations or products derived from the data.

AEM Tier II
Kenyon Cattle, LLC
(1=Low, 4=High)

Worksheet Name	Risk Level (1-4)	Concern	Best Management Practice
Waste Disposal	2	Very few animals die, however, occasionally one passes away and is composted. Waste Oil and Grease	Utilize compost strategies outlined by Cornell Waste Management Institutes, <u>Natural Rendering</u> , Fact Sheet Recycled to the fullest extent possible.
Silage Storage	4	Ground water does not allow concrete base to remain stable. Leachate is not collected Forage Moisture	Install curtain drains and tile drainage to remove eliminate ground water concerns. Improve concrete apron and pad accordingly. Install a high flow low flow collection system with appropriate VTA. Harvest moisture should be as close to 64% as possible to reduce leachate. A suitable range is within 64-68%.
Feed Management	1	.	Farm work with Precision Feeding to maximize forage and minimize grain imports
Pasture Management	2.5	Animals are not fenced out of the stream or flood plain areas. Laneway nearest old barn cross unclassified water way can lose soil and nutrients.	Farm manages pasture area closely by limiting exposure. Animals are fed TMR daily and Water is supplied in the freestall. Animals are kept in the barn or pastured in less sensitive areas during inclement weather conditions. Laneway improvements recommended nearest the old freestall along with a stream crossing.

Worksheet Name	Risk Level (1-4)	Concern	Best Management Practice
Livestock Odor Management	2.5	There have been no odor concerns as neighbors are few and are aware of farming practices.	
Petroleum Storage	3	Farm is registered with NYS DEC PBS. Tank is next to a public road and any spill or leak drains into animals housing areas and surface drainage ditches.	Keep up with records per requirements. Install roof and barrier to protect tank. Secondary containment could be completed as well.
Wells	2	Well 1 is located under the old freestall barn.	
Manure Management	3	The farm exports all its manure to Kenyon Acres. Manure is stored in an engineered evaluated storage. Improvements are needed to certify the structure. Records are being kept for 5years	A nutrient management plan has been developed for Kenyon Acres which also addresses crop rotations and soil erosion. The manure storage structure requires widening the berm on the northeast side of the structure.

Description of pumping and disposal mechanisms utilized For manure management

Pumping and disposal mechanisms are industry standard components.

As a brief overview has been outlined on the Waste Transfer Map;

Stationary

- Gravity Flow Pipe
 - Continually Operated
- Alley Scraper
 - Timer Operated

Mobil

- Trail Pumps
 - PTO or Hydraulic Driven
- Tanker spreader
 - Manually operated from tractor
 - PTO driven
- Box spreader
 - Manually operated from tractor
 - PTO driven
- Tanker Transport
 - Manually operated
 - Hydraulic driven centrifugal pump
 - Loads Tanker Spreader to minimize road time and hazards

Manure is scraped from the heifer barn with an automated alley scraper. Manure is drops into a slotted opening in the floor and gravity flows out of the barn to the manure storage.

Manure from the storage pit is agitated manually with a PTO driven trail pump. Manure is loaded onto a tanker spreader with the gravity flow pipe for land application according to NMP standards. No additional waste is added to the system.

Manure from the smaller animal housing areas consists of large volumes of bedding. Manure is scraped up with skid steer and loaded directly onto the box spreader for land application according to NMP standards.

Legend

- Animal Housing
- Bunker Silo
- Calf Housing
- Concrete Pad
- Freestall
- Manure Storage
- Well
- Roads
- Perennial Stream
- Delaware Soils

0 100 200 400 600 800 Feet


















North

Marick Farms

Turnpike

Doonans Corners-E Meredith

LaC, LaD, LaE, LaF, LaG, LaH, LaI, LaJ, LaK, LaL, LaM, LaN, LaO, LaP, LaQ, LaR, LaS, LaT, LaU, LaV, LaW, LaX, LaY, LaZ, LaAA, LaAB, LaAC, LaAD, LaAE, LaAF, LaAG, LaAH, LaAI, LaAJ, LaAK, LaAL, LaAM, LaAN, LaAO, LaAP, LaAQ, LaAR, LaAS, LaAT, LaAU, LaAV, LaAW, LaAX, LaAY, LaAZ, LaBA, LaBB, LaBC, LaBD, LaBE, LaBF, LaBG, LaBH, LaBI, LaBJ, LaBK, LaBL, LaBM, LaBN, LaBO, LaBP, LaBQ, LaBR, LaBS, LaBT, LaBU, LaBV, LaBW, LaBX, LaBY, LaBZ, LaCA, LaCB, LaCC, LaCD, LaCE, LaCF, LaCG, LaCH, LaCI, LaCJ, LaCK, LaCL, LaCM, LaCN, LaCO, LaCP, LaCQ, LaCR, LaCS, LaCT, LaCU, LaCV, LaCW, LaCX, LaCY, LaCZ, LaDA, LaDB, LaDC, LaDD, LaDE, LaDF, LaDG, LaDH, LaDI, LaDJ, LaDK, LaDL, LaDM, LaDN, LaDO, LaDP, LaDQ, LaDR, LaDS, LaDT, LaDU, LaDV, LaDW, LaDX, LaDY, LaDZ, LaEA, LaEB, LaEC, LaED, LaEE, LaEF, LaEG, LaEH, LaEI, LaEJ, LaEK, LaEL, LaEM, LaEN, LaEO, LaEP, LaEQ, LaER, LaES, LaET, LaEU, LaEV, LaEW, LaEX, LaEY, LaEZ, LaFA, LaFB, LaFC, LaFD, LaFE, LaFF, LaFG, LaFH, LaFI, LaFJ, LaFK, LaFL, LaFM, LaFN, LaFO, LaFP, LaFQ, LaFR, LaFS, LaFT, LaFU, LaFV, LaFW, LaFX, LaFY, LaFZ, LaGA, LaGB, LaGC, LaGD, LaGE, LaGF, LaGG, LaGH, LaGI, LaGJ, LaGK, LaGL, LaGM, LaGN, LaGO, LaGP, LaGQ, LaGR, LaGS, LaGT, LaGU, LaGV, LaGW, LaGX, LaGY, LaGZ, LaHA, LaHB, LaHC, LaHD, LaHE, LaHF, LaHG, LaHH, LaHI, LaHJ, LaHK, LaHL, LaHM, LaHN, LaHO, LaHP, LaHQ, LaHR, LaHS, LaHT, LaHU, LaHV, LaHW, LaHX, LaHY, LaHZ, LaIA, LaIB, LaIC, LaID, LaIE, LaIF, LaIG, LaIH, LaII, LaIJ, LaIK, LaIL, LaIM, LaIN, LaIO, LaIP, LaIQ, LaIR, LaIS, LaIT, LaIU, LaIV, LaIW, LaIX, LaIY, LaIZ, LaJA, LaJB, LaJC, LaJD, LaJE, LaJF, LaJG, LaJH, LaJI, LaJJ, LaJK, LaJL, LaJM, LaJN, LaJO, LaJP, LaJQ, LaJR, LaJS, LaJT, LaJU, LaJV, LaJW, LaJX, LaJY, LaJZ, LaKA, LaKB, LaKC, LaKD, LaKE, LaKF, LaKG, LaKH, LaKI, LaKJ, LaKK, LaKL, LaKM, LaKN, LaKO, LaKP, LaKQ, LaKR, LaKS, LaKT, LaKU, LaKV, LaKW, LaKX, LaKY, LaKZ, LaLA, LaLB, LaLC, LaLD, LaLE, LaLF, LaLG, LaLH, LaLI, LaLJ, LaLK, LaLL, LaLM, LaLN, LaLO, LaLP, LaLQ, LaLR, LaLS, LaLT, LaLU, LaLV, LaLW, LaLX, LaLY, LaLZ, LaMA, LaMB, LaMC, LaMD, LaME, LaMF, LaMG, LaMH, LaMI, LaMJ, LaMK, LaML, LaMN, LaMO, LaMP, LaMQ, LaMR, LaMS, LaMT, LaMU, LaMV, LaMW, LaMX, LaMY, LaMZ, LaNA, LaNB, LaNC, LaND, LaNE, LaNF, LaNG, LaNH, LaNI, LaNJ, LaNK, LaNL, LaNM, LaNO, LaNP, LaNQ, LaNR, LaNS, LaNT, LaNU, LaNV, LaNW, LaNX, LaNY, LaNZ, LaOA, LaOB, LaOC, LaOD, LaOE, LaOF, LaOG, LaOH, LaOI, LaOJ, LaOK, LaOL, LaOM, LaON, LaOO, LaOP, LaOQ, LaOR, LaOS, LaOT, LaOU, LaOV, LaOW, LaOX, LaOY, LaOZ, LaPA, LaPB, LaPC, LaPD, LaPE, LaPF, LaPG, LaPH, LaPI, LaPJ, LaPK, LaPL, LaPM, LaPN, LaPO, LaPP, LaPQ, LaPR, LaPS, LaPT, LaPU, LaPV, LaPW, LaPX, LaPY, LaPZ, LaQA, LaQB, LaQC, LaQD, LaQE, LaQF, LaQG, LaQH, LaQI, LaQJ, LaQK, LaQL, LaQM, LaQN, LaQO, LaQP, LaQQ, LaQR, LaQS, LaQT, LaQU, LaQV, LaQW, LaQX, LaQY, LaQZ, LaRA, LaRB, LaRC, LaRD, LaRE, LaRF, LaRG, LaRH, LaRI, LaRJ, LaRK, LaRL, LaRM, LaRN, LaRO, LaRP, LaRQ, LaRR, LaRS, LaRT, LaRU, LaRV, LaRW, LaRX, LaRY, LaRZ, LaSA, LaSB, LaSC, LaSD, LaSE, LaSF, LaSG, LaSH, LaSI, LaSJ, LaSK, LaSL, LaSM, LaSN, LaSO, LaSP, LaSQ, LaSR, LaSS, LaST, LaSU, LaSV, LaSW, LaSX, LaSY, LaSZ, LaTA, LaTB, LaTC, LaTD, LaTE, LaTF, LaTG, LaTH, LaTI, LaTJ, LaTK, LaTL, LaTM, LaTN, LaTO, LaTP, LaTQ, LaTR, LaTS, LaTT, LaTU, LaTV, LaTW, LaTX, LaTY, LaTZ, LaUA, LaUB, LaUC, LaUD, LaUE, LaUF, LaUG, LaUH, LaUI, LaUJ, LaUK, LaUL, LaUM, LaUN, LaUO, LaUP, LaUQ, LaUR, LaUS, LaUT, LaUU, LaUV, LaUW, LaUX, LaUY, LaUZ, LaVA, LaVB, LaVC, LaVD, LaVE, LaVF, LaVG, LaVH, LaVI, LaVJ, LaVK, LaVL, LaVM, LaVN, LaVO, LaVP, LaVQ, LaVR, LaVS, LaVT, LaVU, LaVV, LaVW, LaVX, LaVY, LaVZ, LaWA, LaWB, LaWC, LaWD, LaWE, LaWF, LaWG, LaWH, LaWI, LaWJ, LaWK, LaWL, LaWM, LaWN, LaWO, LaWP, LaWQ, LaWR, LaWS, LaWT, LaWU, LaWV, LaWW, LaWX, LaWY, LaWZ, LaXA, LaXB, LaXC, LaXD, LaXE, LaXF, LaXG, LaXH, LaXI, LaXJ, LaXK, LaXL, LaXM, LaXN, LaXO, LaXP, LaXQ, LaXR, LaXS, LaXT, LaXU, LaXV, LaXW, LaXX, LaXY, LaXZ, LaYA, LaYB, LaYC, LaYD, LaYE, LaYF, LaYG, LaYH, LaYI, LaYJ, LaYK, LaYL, LaYM, LaYN, LaYO, LaYP, LaYQ, LaYR, LaYS, LaYT, LaYU, LaYV, LaYW, LaYX, LaYY, LaYZ, LaZA, LaZB, LaZC, LaZD, LaZE, LaZF, LaZG, LaZH, LaZI, LaZJ, LaZK, LaZL, LaZM, LaZN, LaZO, LaZP, LaZQ, LaZR, LaZS, LaZT, LaZU, LaZV, LaZW, LaZX, LaZY, LaZZ

- ### Legend
- | | | | |
|--|-----------------|---|------------------|
|  | Animal Housing |  | Well |
|  | Bunker Silo |  | Roads |
|  | Calf Housing |  | Perennial_Stream |
|  | Concrete Pad |  | Delware_Soils |
|  | Freestall | | |
|  | Manure Storage | | |
|  | Old Freestall | | |
|  | Old Gutter Room | | |
|  | Roofed Bunker | | |
|  | Shed | | |
|  | Shop | | |
|  | Pasture | | |
|  | Fuel | | |

benchmarks are in place to avoid financial losses. A middle of the road level would be to have the dietary P level at 0.38% of the ration DM. The farm is actively involved in a precision feeding program sponsored in part by CCE. By minimizing overfeeding P in the diet manure P should be reduced.

Milk urea nitrogen (MUN) levels should also be checked to determine if too much protein may be fed for the amount of carbohydrates in the diet. Reducing the amount of N excreted in the manure and urine will be beneficial both environmentally and herd health wise. Work with you nutritionist to optimize accordingly.

E. Manure Spreader Calibrations

Manure spreader calibrations are necessary to help determine accuracy in covering fields with the right number of loads. If spreaders have not changed from the last plan update no additional calibrations were completed. If a new spreader has been added to the operation the following information outlines the spreader details. Marick Farms uses four different tank spreader units, three with approximately 4000 gal capacity and one with 5000 gal capacity. Calf manure and silage spoilage is spread with a Massey Ferguson 3743.

Spreader	Capacity
1	4000
2	4000
3	5000
Massey Ferguson 3743	2100

F. Manure Storage Capacity

The amount of storage capacity normally does not change without making structural changes; however, the number of months worth of storage can be affected by cow number, additions of milkhouse waste water, bedding use, or poor exclusion of rain water. The following is intended to be used as a guide to help determine timing of applications.

Storage Structure	Volume	Months Storage based on Waste Calculations
Dairy Lagoon (504ft perimeter x 12 ft deep)	1,070,000	~127 days
Heifer lagoon	271,000	~107 days

Best Management Practice Implementation Schedule

[illegible]

Concentrated Sources

Marick Farm, LLC

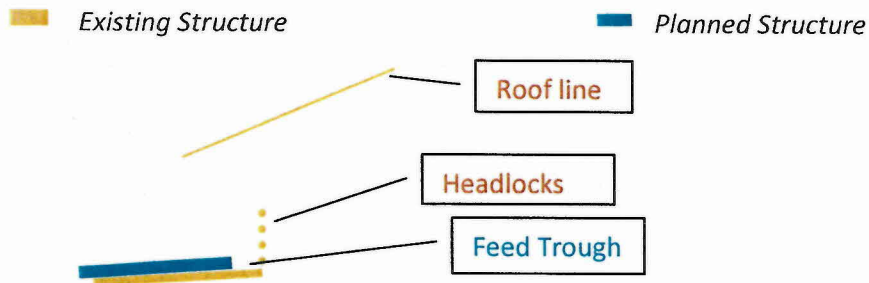
Marick Farm, LLC keep their milking cows confined within a plastic greenhouse type freestall barn. The greenhouse structure is in five sections with large gutters between the sections, which carry roof water to the north end of the barn. This water remains clean as it runs into a ditch parallel to the driveway and eventually into the road ditch. A small portion of the roof water, half of the water from each outside section of the greenhouse, drops directly to the ground.

There is no barnyard. However, there is a lane at the east end of the barn, the end where roof water does not fall. Dry cows use this lane to access pasture. A ditch above the lane prevents water from running over the lane, but an area where the dry cows cross the ditch to enter the pasture is an area of concern. Installation of a culvert at the crossing will prevent contamination of water in this ditch, which outlets into a small pond.

Marick Farm, LLC does not store any silage. Marick Farm, LLC purchases forages from Kenyon Acres, LLC as the forages are used.

The earthen manure storage appears to be functioning as designed. It is both gravity in and gravity out. An area of concern is where the spreaders are loaded. Any slight spill of manure while loading could easily enter the road ditch. This area needs to be paved with concrete and curbed to contain any overflows while filling the spreaders. Any spills should be cleaned up immediately.

under roof and out of contact with rain water. The alley will need to extend 24ft from the headlocks to allow TMR mixer and Tractor to remain on a stabilized surface.



Cb. The amount of rainwater collected off the southern roof and the northern roof of G will be effectively managed with a 10" culvert laid under the calf barn (G). The surface and roof water from the south east side as identified in B can be tied in with this system as such.

Install an inlet box on the SW edge of the active freestall. Install an inlet box on the NW corner of the greenhouse. Remove the existing culvert from the under the calf barn, drop the elevation from the current depth by 10-12" and install a 10" solid pipe. Both inlet boxes will tie into the inlet box on the SW corner of G.

With good housekeeping practices all water in this area will be considered clean.

Note: the amount of rainfall expected from a 25year 5 minute rain event is 0.57" per (210-VI-AWMFH, rev. 1, July 1996). The amount of rainfall collected in the SW surface inlet would be about 2978 gallons from such an event, while, 3135 gallons would be collected on the west end of the greenhouse (G).

A concrete access pad is on the west end of the freestall and butts up against B. The 12' x 50' concrete pad slopes back into the freestall so that dirty water can be contained and diverted to storage. The anticipated annual volume of water collected, including rainfall from a 25yr 24hr rain event is 17,614 gallons. A portion of the concrete has been beveled to divert some of the roof water from B away from pad. The beveled area will be managed for cleanliness to eliminate the need for structural recommendations. When managed correctly there is not a resource concern.

C1a. Keep manure debris from entering the swale. Refer to O&M discussions.



D. Manure Storage (~50ft x ~175ft)

The manure storage was evaluated by Team Ag in 2006-2007 in conjunction with the CAFO facilities manure storage. Since the heifer storage and facility is not a part of the CAFO it was not and has not yet been brought up to code with NRCS standards. Team Ag noted the berm

slope deficiency on the north east side of the structure. To meet standard, the berm width must be increased as indicated in the report. An engineer should perform some basic review of the site as 4 years has passed since the last report and conditions may be different. No structural changes have been made to the system since the last evaluation. The storage has a 271,000 gallon storage capacity and is no longer emptied by means of the gravity pipe (D1). Manure is pumped from the storage by means of PTO driven trail pump.

Da. Maintain fence and signs.

Db. Keep outside and inside berm mowed to improve inspection efficiency. Inspect varmint holes on a monthly basis. Exterminate or effectively remove critters and repair holes.

Dc. Install a visible permanent depth marker 18.6" below the top of the berm.

Dd. Make necessary changes to structure according to engineer and obtain certification.

A gravity pipe (D1) is used to fill the manure spreaders. The 12" pipe is equipped with a hydraulic valve which was used for controlling the flow of manure. The area immediately around the end of the pipe has been built up to create an earthen berm that would help contain an accidental overflow should the valve fail. The berm is about 3ft deep and encompasses an area of 5660sq.ft. It will contain about 120,000 gallons of manure or 40% of the storage at peak capacity.

D1a. Continue to operate and maintain hydraulics. Inspect valves after each time the storage is emptied for proper seal.

E. Pastures

A series of pastures are used to allow animals to get off the concrete and confinement areas. The pastures are not set up for rotational grazing are not set up to exclude animals from the stream. Other than a couple of crossing areas the stream banks are in good condition and animals do not loiter in the stream only to drink water. The walkways for the most part are in good condition and appear to be stable. Other than the access lane ways pastures look well managed as vegetation covers most of the pastured area. Since management is managing this system rather well there is no need to make structural recommendations. A few guidelines should be considered;

Ea. If supplemental feed will be supplied out in the pasture, move the wagon of bale feeder to prevent loss of vegetation and soil resources for excessive traffic.

Eb. Continue to limit animals' exposure to pasture to reduce overgrazing and loss of vegetation.

The NMP calculates the amount of manure produced for the year for the 120 animals that have access to the pasture. All manure is considered to be collected in the manure storage, thus the

Nutrient Management—Marick Farm, LLC

All manure, including bedding, and all milking center waste gravity flows to an earthen manure storage, which holds approximately 700,000 gallons. The holding area is flushed and the manure is removed from the barn by alley scrapers. Annually, this waste, plus precipitation minus evaporation, is calculated to total 2,439,860 gallons. All of this waste is exported to Kenyon Acres, LLC.

Marick Farm LLC will provide a **NOTICE TO IMPORTERS OF MANURE** to Kenyon Acres LLC and to any other importer stating the manure analysis and an estimate of the quantity imported. A sample notice is provided in this plan.

Marick Farm, LLC will ask its nutritionist to evaluate the ration to determine whether the phosphorus content could be reduced in an attempt to lower the phosphorus content of the manure.

Manure Quantities for Storage Facility

Three months Storage

	Freestall Manure Storage Pond	Heifer Manure Storage Pond
Number of Days	93	93
Number of animals	300	250
Average weight (pounds)	1400	900
Number of AEU	420	225
Manure (Gallons/AEU/day)	14.5	13.8
Bedding Waste (Gallons /cow/day)	4.8	2
Milkhouse Wastewater Gallons/cow/day)	4	0
Manure from herds (Gallons)	566,370	288,767
Bedding from herd (Gallons)	74,400	23,250
Milkhouse wastewater	111,600	0
Total waste from herd (Gallons)	752,370	312,017
Precipitation-Evaporation on Pond (Gallons)	52,900	22,000
25 Year, 24 hour storm on Pond (Gallons)	64,500	34,000
Total with Rainfall (Gallons)	869,770	368,017
Manure Storage Capacity	1,070,000	271,000